

ABSTRACT OF THE DISCLOSURE

A modulated saturable absorber controlled laser. The laser includes an active medium; a saturable absorber material operationally coupled to the medium to serve
5 as a passive Q switch; and an energy source disposed external to the medium for apply energy to the absorber. In particular embodiments, the energy source is a diode laser and focusing optics are included between the diode laser and the absorber. Modulation of the gain at the photon round trip time in the laser resonator causes a mode-locked laser output. A dichroic beamsplitter is included in this embodiment for
10 directing energy to the absorber. In an alternative embodiment, the diode laser is a quasi-monolithic diode laser assembly ring.